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recombinant cell (transformed by a suitable vector) comprising the nucleotide sequence encoding the receptor, as well as the natural ligands (ADP and equivalent molecules such as 2MeSADP, ADPβS including any of the ADP analogues presented in US PAT. NO 5,700,786) to be used in screening assays for identification of agonists, inverse agonists or antagonist compounds useful for the development of new drugs and the improvement of various disease diagnostics.

In the Claims

Please amend Claims 7-9, 11-13 and ~~22~~ 23 as follows. Amendments to the claims are indicated in the attached "Marked Up Version of Amendments".

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7. (Amended) A method of screening for a candidate modulator of GPR86 activity using cells expressing GPR86, said method compromising:

a) incubating a first sample of said cells in the presence of said candidate modulator and a second sample of said cells in the absence of said candidate modulator, both said samples under conditions which permit binding of ADP to GPR86;

b) detecting a signalling activity of GPR86 polypeptide in said first and second samples by a second messenger assay, and

c) comparing the results of said second messenger assays for said first and second samples, wherein a difference in activity between said first and second samples is indicative of said candidate modulator being a modulator of GPR86 activity.

8. (Amended) The method of claim 7 wherein said cell is selected from the group consisting of: COS7-cells, a CHO cell, a LM (TK-) cell, a NIH-3T3 cell, HEK-293 cell, K-562 cell, a 1321N1 astrocytoma cell.

9. (Amended) A method of screening for a candidate modulator of GPR86 activity using cell membranes bearing GPR86, said method comprising:

C2

a) incubating a first sample of said cell membranes in the presence of said candidate modulator and a second sample of said cell membranes in the absence of said candidate modulator, both said samples under conditions which permit binding of ADP to GPR86;

b) detecting a signalling activity of GPR86 polypeptide in said first and second samples by a second messenger assay, and

c) comparing the results of said second messenger assays for said first and second samples, wherein a difference in activity between said first and second samples is indicative of said candidate modulator being a modulator of GPR86 activity.

C3

11. (Amended) A method for determining if a candidate modulator increases or decreases the activity of GPR86 using cells expressing GPR86, said method comprising:

a) incubating a first sample of said cells in the presence of said candidate modulator and a second sample of said cells in the absence of said candidate modulator, both said samples under conditions which permit binding of ADP to GPR86;

b) detecting a signalling activity of GPR86 polypeptide in said first and second samples by a second messenger assay, and

c) comparing the results of said second messenger assays for said first and second samples, wherein a difference in activity between said first and second samples is indicative of said candidate modulator as increasing or decreasing GPR86 activity.

12. (Amended) The method of claim 11 wherein said cells are selected from the group consisting of: COS7-cells, a CHO cell, a LM (TK-) cell, a NIH-3T3 cell, HEK-293 cell, K-562 cell and a 1321N1 astrocytoma cell.

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13. (Amended) A method for determining if a candidate modulator increases or decreases the activity of GPR86 using cell membranes bearing GPR86, said method comprising:

a) incubating a first sample of said cell membranes in the presence of said candidate modulator and a second sample of said cell membranes in the absence of said candidate modulator, both said samples under conditions which permit binding of ADP to GPR86;

b) detecting a signalling activity of GPR86 polypeptide in said first and second samples by a second messenger assay, and

c) comparing the results of said second messenger assays for said first and second samples, wherein a difference in activity between said first and second samples is indicative of said candidate modulator increasing or decreasing GPR86 activity.

C4

23. (Amended) A method of identifying an agent that modulates the function of GPR86, said method comprising:

a) contacting a GPR86 polypeptide in the presence and absence of a candidate modulator under conditions permitting the binding of said ADP to said GPR86 polypeptide; and

b) measuring the binding of said GPR86 polypeptide to said candidate modulator, relative to the binding in the absence of said candidate modulator, wherein a difference in binding identifies said candidate modulator as an agent that modulates the function of GPR86.

REMARKS

Claims 1-24 and 25-45 are currently pending in the application. Claims 7-9, 11-13 and 23 are amended. The amendments find support in the specification and are discussed in the relevant sections below. No new matter is added.